

WHAT IS CLAIMED IS:

1. A method of managing faults in a storage system having a job management function for identifying a job in a computer system having a computing device for executing jobs, a storage device including a plurality of physical disk units, and a computer for managing faults, the job is affected by a fault at a location existing on a data mapping path, said data mapping path comprising a particular table on a database accessed by a particular job, a file for storing said table, a logical volume for storing said file, and said physical disk units for distributively storing data on said volume, based on data mapping information related to said data mapping path, said data mapping information including an identifier of an interface situated on said data mapping path for interfacing one device to another, said method comprising the steps of:

collecting part of said data mapping information from each of devices which hold corresponding information on said data mapping path from said job to said physical disk units through said table, said file, and said volume;

integrating said data mapping information on a job-by-job basis for storage in a management table; and

identifying a job affected by a fault with reference to said management table for displaying the

affected job upon receipt of a fault report about any of said physical disk units from said storage device.

2. A method of managing fault in a storage system according to claim 1, wherein:

said data mapping information has a hierarchical structure comprised of a real volume for storing said file, one or more virtual volumes for storing said real volume, logical disk units for distributively storing data on said virtual volume, and said physical disk units for distributively storing data on said logical disk units; and

said computer system further comprises a virtualizer interposed between said computing device and said storage device for converting an identifier of said virtual volume included in an input/output request received from a higher rank device to an identifier of said logical disk unit.

3. A method of managing fault in a storage system according to claim 2, wherein said data mapping information includes information on a correspondence relationship between said file and said real volume, information on a correspondence relationship between said real volume and said virtual volume, information on a correspondence relationship between said virtual volume and said logical disk units, and information on a correspondence relationship between said logical disk units and said physical disk units.

4. A computer system for identifying a job which

is affected by a fault at a location existing on a data mapping path, said data mapping path comprising a particular table on a database accessed by a particular job, a file for storing said table, a logical volume for storing said file, and physical disk units for distributively storing data on said volume, based on data mapping information related to said data mapping path, said data mapping information including an identifier of an interface situated on said data mapping path for interfacing one device to another, said computer system comprising:

- a computing device for executing a job;

- a storage device including a plurality of said physical disk units; and

- a server computer for managing faults, said server computer including:

- means for collecting part of said data mapping information from each of devices which hold corresponding information on said data mapping path from said job to said physical disk units through said table, said file, and said volume;

- means for integrating said data mapping information on a job-by-job basis for storage in a management table; and

- means for identifying a job affected by a fault with reference to said management table for displaying the affected job upon receipt of a fault report about any of said physical disk units from said

storage device.

5. A computer system according to claim 4,  
wherein:

said data mapping information has a hierarchical structure comprised of a real volume for storing said file, one or more virtual volumes for storing said real volume, logical disk units for distributively storing data on said virtual volume, and said physical disk units for distributively storing data on said logical disk units; and

said computer system further comprises a virtualizer interposed between said computing device and said storage device for converting an identifier of said virtual volume included in an input/output request received from a higher rank device to an identifier of said logical disk unit.

6. A computer system according to claim 5,  
wherein said data mapping information includes information on a correspondence relationship between said file and said real volume, information on a correspondence relationship between said real volume and said virtual volume, information on a correspondence relationship between said virtual volume and said logical disk units, and information on a correspondence relationship between said logical disk units and said physical disk units.

7. A server computer for identifying a job which is affected by a fault at a location existing on a data

mapping path in a computer system having a computing device for executing jobs and a storage device including a plurality of physical disk units, said data mapping path comprising a particular table on a database accessed by a particular job, a file for storing said table, a logical volume for storing said file, and said physical disk units for distributively storing data on said volume, based on data mapping information related to said data mapping path, said data mapping information including an identifier of an interface situated on said data mapping path for interfacing one device to another, said server computer comprising:

means for collecting part of said data mapping information from each of devices which hold corresponding information on said data mapping path from said job to said physical disk units through said table, said file, and said volume;

means for integrating said data mapping information on a job-by-job basis for storage in a management table; and

means for identifying a job affected by a fault with reference to said management table for displaying the affected job upon receipt of a fault report about any of said physical disk units from said storage device.

8. A server computer according to claim 7, wherein:

said data mapping information has a hierarchical structure comprised of a real volume for storing said file, one or more virtual volumes for storing said real volume, logical disk units for distributively storing data on said virtual volume, and said physical disk units for distributively storing data on said logical disk units; and

said computer system further comprises a virtualizer interposed between said computing device and said storage device for converting an identifier of said virtual volume included in an input/output request received from a higher rank device to an identifier of said logical disk unit.

9. A server computer according to claim 8, wherein said data mapping information includes information on a correspondence relationship between said file and said real volume, information on a correspondence relationship between said real volume and said virtual volume, information on a correspondence relationship between said virtual volume and said logical disk units, and information on a correspondence relationship between said logical disk units and said physical disk units.

10. A server computer for identifying a job which is affected by a fault at a location existing on a data mapping path, in a computer system having a computing device for executing jobs and a storage device including a plurality of physical disk units, said data

mapping path comprising a particular table on a database accessed by a particular job, a file for storing said table, a logical volume for storing said file, and said physical disk units for distributively storing data on said volume, based on data mapping information related to said data mapping path, said data mapping information including correspondence relationships between identifiers for said job, said table, said file, said volume, and said physical disk units, and an identifier of an interface situated on said data mapping path for interfacing one device to another, said server computer comprising:

means for collecting part of said data mapping information from each of devices which hold the part of said data mapping information;

means for integrating said data mapping information on a job-by-job basis for storage in a management table; and

means for identifying a job affected by a fault with reference to said management table for displaying the affected job upon receipt of a fault report about a location existing on said data mapping path, said location having an identifier stored in said management table.

11. A server computer according to claim 10, wherein:

said data mapping information includes information on a correspondence relationship between

said file and a real volume for storing said file, information on a correspondence relationship between said real volume and one or more virtual volumes for storing said real volume, information on a correspondence relationship between said virtual volumes and said logical disk units for distributively storing data on said virtual volumes, and information on a correspondence relationship between said logical disk units and said physical disk units for distributively storing data on said logical disk units; and

said computer system further comprises a virtualizer interposed between said computing device and said storage device for converting an identifier of said virtual volume included in an input/output request received from a higher rank device to an identifier of said logical disk unit.

12. A server computer according to claim 10, further comprising means for processing said job identified to be affected by the fault by a processing method previously set in a job execution control table.

13. A server computer according to claim 12, further comprising means, responsive to information set in said job execution control table as to whether or not a human manager is requested to confirm the processing, for processing said job identified to be affected by the fault by said processing method when the human manager gives a permission.



14. A program executed by a server computer for identifying a job which is affected by a fault at a location existing on a data mapping path in a computer system having a computing device for executing jobs and a storage device including a plurality of physical disk units, said data mapping path comprising a particular table on a database accessed by a particular job, a file for storing said table, a logical volume for storing said file, and said physical disk units for distributively storing data on said volume, based on data mapping information related to said data mapping path, said data mapping information including an identifier of an interface situated on said data mapping path for interfacing one device to another, said program causing said server computer to implement:

a function of collecting part of said data mapping information from each of devices which hold corresponding information on said data mapping path from said job to said physical disk units through said table, said file, and said volume;

a function of integrating said data mapping information on a job-by-job basis for storage in a management table; and

a function of identifying a job affected by a fault with reference to said management table for displaying the affected job upon receipt of a fault report about any of said physical disk units from said storage device.

15. A computer program according to claim 14, wherein:

said data mapping information has a hierarchical structure comprised of a real volume for storing said file, one or more virtual volumes for storing said real volume, logical disk units for distributively storing data on said virtual volume, and said physical disk units for distributively storing data on said logical disk units; and

said computer system further comprises a virtualizer interposed between said computing device and said storage device for converting an identifier of said virtual volume included in an input/output request received from a higher rank device to an identifier of said logical disk unit.

16. A computer program according to claim 15, wherein said data mapping information includes information on a correspondence relationship between said file and said real volume, information on a correspondence relationship between said real volume and said virtual volume, information on a correspondence relationship between said virtual volume and said logical disk units, and information on a correspondence relationship between said logical disk units and said physical disk units.

17. A program executed by a server computer for identifying a job in a computer system having a computing device for executing jobs and a storage

device including a plurality of physical disk units, the job is affected by a fault at a location existing on a data mapping path, said data mapping path comprising a particular table on a database accessed by a particular job, a file for storing said table, a logical volume for storing said file, and said physical disk units for distributively storing data on said volume, based on data mapping information related to said data mapping path, said data mapping information including correspondence relationships between identifiers for said job, said table, said file, said volume, and said physical disk units, and an identifier of an interface situated on said data mapping path for interfacing one device to another, said program causing said server computer to implement:

    a function of collecting part of said data mapping information from each of devices which hold the part of said data mapping information;

    a function of integrating said data mapping information on a job-by-job basis for storage in a management table; and

    a function of identifying a job affected by a fault with reference to said management table for displaying the affected job upon receipt of a fault report about a location existing on said data mapping path, said location having an identifier stored in said management table.

18.       A program according to claim 17, wherein:

said data mapping information includes information on a correspondence relationship between said file and a real volume for storing said file, information on a correspondence relationship between said real volume and one or more virtual volumes for storing said real volume, information on a correspondence relationship between said virtual volumes and said logical disk units for distributively storing data on said virtual volumes, and information on a correspondence relationship between said logical disk units and said physical disk units for distributively storing data on said logical disk units; and

said computer system further comprises a virtualizer interposed between said computing device and said storage device for converting an identifier of said virtual volume included in an input/output request received from a higher rank device to an identifier of said logical disk unit.

19. A program according to claim 17, further causing said server computer to implement a function of processing said job identified to be affected by the fault by a processing method previously set in a job execution control table.

20. A program to claim 19, further causing said server computer to implement a function operative in accordance with information set in said job execution control table as to whether or not a human manager is

requested to confirm the processing, for processing  
said job identified to be affected by the fault by said  
processing method when the human manager gives a  
permission.